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TSRI 0504.1.TXT

SEQUENCE LISTING

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<120> CASSAVA VEIN MOSAIC VIRUS PROMOTERS AND
USES THEREOF

<130> TSRI 0504.1

<140> US 09/202,838

<141> 2000-01-21

<150> PCT/US97/10376

<151> 1997-06-20

<150> US 60/020,129

<151> 1996-06-20

<160> 37

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 392

<212> DNA

<213> Cassava vein mosaic virus

<400> 1

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aagaagaacc	aggcgaagaa	agaatcttg	aagacgtaag	caactgacgac	aacaatgaaa	180
agaagaagat	aaggtcgggtg	attgtgaaag	agacatagag	gacacatgta	aggtggaaaa	240
tgtaaggcgc	gaaagtaacc	ttatcacaaa	ggaatcttat	ccccactac	ttatcctttt	300
atatttttcc	gtgtcatttt	tgcctttgag	ttttcctata	taaggaacca	agttcggcat	360
ttgtgaaaac	aagaaaaaat	ttggtgtaag	ct			392

<210> 2

<211> 524

<212> DNA

<213> Cassava vein mosaic virus

<400> 2

ggtaccagaa	ggtaattatc	caagatgtag	catcaagaat	ccaatgttta	cgggaaaaac	60
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atgtttcaaaa	atgaagaatg	tacagataca	agatcctata	ctgccagaat	acgaagaaga	180
atacgtagaa	attgaaaaag	aagaaccagg	cgaagaaaag	aatcttgaag	acgtaagcac	240
tgacgacaac	aatgaaaaga	agaagataag	gtcgggtgatt	gtgaaagaga	catagaggac	300
acatgtaagg	tggaaaaatg	aagggcggaa	agtaacctta	tcacaaagga	atcttatccc	360
ccactactta	tcctttttata	tttttcctgt	tcattttttgc	ccttgagttt	tcctatataa	420
ggaaccaagt	tcggcatttg	tgaaaacaag	aaaaaatttg	gtgtaagcta	ttttccttga	480
agtactgagg	atacaagttc	agagaaattt	gtaagtttga	attc		524

<210> 3

<211> 524

<212> DNA

<213> Cassava vein mosaic virus

<400> 3

ggtaccagaa	ggtaattatc	caagatgtag	catcaagaat	ccaatgttta	cgggaaaaac	60
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atgttcaaaa atgaagaatg tacagataca agatcctata ctgccagaat acgaagaaga 180
atacgtagaa attgaaaaag aagaaccagg cgaagaaaag aatcttgaag acgtaagcac 240
tgacgacaac aatgaaaaga agaagataag gtcggtgatt gtgaaagaga catagaggac 300
acatgtaagg tggaaaatgt aagggcggaa agtaacctta tcacaaagga atcttatccc 360
ccactactta tccttttata tttttccgtg tcatttttgc ccttgagttt tcctatataa 420
ggaaccaagt tcggcatttg tgaaaacaag aaaaaatttg gtgtaagcta ttttctttga 480
agtactgagg atacaagttc agagaaattt gtaagtttga attc 524
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<210> 4
 <211> 411
 <212> DNA
 <213> Cassava vein mosaic virus

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<400> 4
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aagaagaata cgtagaaatt gaaaaagaag aaccaggcga agaaaagaat cttgaagacgc 120
taagcactga cgacaacaat gaaaagaaga agataagggtc ggtgattgtg aaagagacat 180
agaggacaca tgtaagggtg aaaatgtaag ggcggaaagt aaccttatca caaaggaatc 240
ttatcccccct ctacttatcc ttttatattt ttccgtgtca tttttgccct tgagttttcc 300
tatataagga accaagttcg gcatttgtga aaacaagaaa aaatttggtg taagctattt 360
tctttgaagt actgaggata caagttcaga gaaatttgta agtttgaatt c 411
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<210> 5
 <211> 305
 <212> DNA
 <213> Cassava vein mosaic virus

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<400> 5
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tgtgaaagag acatagagga cacatgtaag gtggaaaatg taagggcgga aagtaacctt 120
atcacaaagg aatcttatcc ccactactt atccttttat atttttccgt gtcatttttg 180
cccttgagtt ttcctatata aggaaccaag ttcggcattt gtgaaaacaa gaaaaaattt 240
ggtgtaagct attttctttg aagtactgag gatacaagtt cagagaaatt tgtaagtttg 300
aattc 305
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<210> 6
 <211> 261
 <212> DNA
 <213> Cassava vein mosaic virus

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<400> 6
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ggcggaaagt aaccttatca caaaggaatc ttatcccccct ctacttatcc ttttatattt 120
ttccgtgtca tttttgccct tgagttttcc tatataagga accaagttcg gcatttgtga 180
aaacaagaaa aaatttggtg taagctattt tctttgaagt actgaggata caagttcaga 240
gaaatttgta agtttgaatt c 261
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<210> 7
 <211> 193
 <212> DNA
 <213> Cassava vein mosaic virus

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<400> 7
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catttttggc cttgagtttt cctatataag gaaccaagtt cggcatttgt gaaaacaaga 120
aaaaatttgg tgtaagctat tttctttgaa gtactgagga tacaagttca gagaaatttg 180
taagtttgaa ttc 193
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<210> 8
 <211> 143
 <212> DNA
 <213> Cassava vein mosaic virus

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<400> 8
 ggatccgtgt catttttggc cttgagtttt cctatataag gaaccaagtt cggcatttgt 60
 gaaaacaaga aaaaatttgg tgtaagctat tttctttgaa gtactgagga tacaagttca 120
 gagaaatttg taagtttgaa ttc 143

<210> 9
 <211> 420
 <212> DNA
 <213> Cassava vein mosaic virus

<400> 9
 tctagaccag aaggtaatta tccaagatgt agcatcaaga atccaatggt tacgggaaaa 60
 actatggaag tattatgtga gctcagcaag aagcagatca atatgcgga catatggatc 120
 ctgaagcgt aagcactgac gacaacaatg aaaagaagaa gataaggctg gtgattgtga 180
 aagagacata gaggacacat gtaagggtgga aaatgttaagg gcggaaagta accttatcac 240
 aaaggaatct tatccccac tacttatcct tttatatttt tccgtgtcat ttttgccctt 300
 gagttttcct atataaggaa ccaagttcgg catttgtgaa aacaagaaaa aatttggtgt 360
 aagctatttt ctttgaagta ctgaggatac aagttcagag aaatttgtaa gtttgaattc 420

<210> 10
 <211> 482
 <212> DNA
 <213> Cassava vein mosaic virus

<400> 10
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 actatggaag tattatgtga gctcagcaag aagcagatca atatgcgga catatgcaac 120
 ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
 gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa aggatccggt cgggtattgt 240
 gaaagagaca tagaggacac atgttaagggt gaaaatgtaa gggcggaaag taaccttatc 300
 acaaaggaat cttatcccc actacttatc cttttatatt tttccgtgtc atttttgccc 360
 ttgagttttc ctatataagg aaccaagttc ggcatttgtg aaaacaagaa aaaatttgg 420
 gtaagctatt ttctttgaag tactgaggat acaagttcag agaaatttgt aagtttgaat 480
 tc 482

<210> 11
 <211> 458
 <212> DNA
 <213> Cassava vein mosaic virus

<400> 11
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 actatggaag tattatgtga gctcagcaag aagcagatca atatgcgga catatgcaac 120
 ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
 gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaattctga agacgtaagc 240
 actgacgaca acaatgaaaa gaagaggatc cttatcacia aggaatctta tccccacta 300
 cttatccttt tatatttttc cgtgtcattt ttgcccttga gttttcctat ataaggaacc 360
 aagttcggca tttgtgaaaa caagaaaaaa tttggtgtaa gctattttct ttgaagtact 420
 gaggatacaa gttcagagaa atttgtaagt ttgaattc 458

<210> 12
 <211> 468
 <212> DNA
 <213> Cassava vein mosaic virus

<400> 12
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 ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
 gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaattctga agacgtaagc 240
 actgacgaca acaatgaaaa gaagaagata aggtcggatc cttatcacia aggaatctta 300

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```
tccccacta cttatccttt tatatctttt cgtgtcattt ttgcccttga gttttcctat 360
ataaggaacc aagttcggca tttgtgaaaa caagaaaaaa tttggtgtaa gctatcttct 420
ttgaagtact gaggatacaa gttcagagaa atttgtaagt ttgaattc 468
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<210> 13

<211> 491

<212> DNA

<213> Cassava vein mosaic virus

<400> 13

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ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaattctga agacgtaagc 240
actgacgaca acaatgaaaa gaagaagata aggtcgggtga ttgtgaaaga gacatagagg 300
atccttatca caaaggaatc ttatccccc cttacttatcc ttttatattt ttccgtgtca 360
tttttgccct tgagttttcc tatataagga accaagttcg gcatttgtga aaacaagaaa 420
aaatttggtg taagctattt tctttgaagt actgaggata caagttcaga gaaatttgta 480
agtttgaatt c 491
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<210> 14

<211> 408

<212> DNA

<213> Cassava vein mosaic virus

<400> 14

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ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaattctga agacgtaagc 240
actgacgaca acaatgaaaa gaagaggatc cgtgtcattt ttgcccttga gttttcctat 300
ataaggaacc aagttcggca tttgtgaaaa caagaaaaaa tttggtgtaa gctatcttct 360
ttgaagtact gaggatacaa gttcagagaa atttgtaagt ttgaattc 408
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<210> 15

<211> 418

<212> DNA

<213> Cassava vein mosaic virus

<400> 15

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ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaattctga agacgtaagc 240
actgacgaca acaatgaaaa gaagaagata aggtcggatc cgtgtcattt ttgcccttga 300
gttttcctat ataaggaacc aagttcggca tttgtgaaaa caagaaaaaa tttggtgtaa 360
gctatcttct ttgaagtact gaggatacaa gttcagagaa atttgtaagt ttgaattc 418
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<210> 16

<211> 441

<212> DNA

<213> Cassava vein mosaic virus

<400> 16

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ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaattctga agacgtaagc 240
actgacgaca acaatgaaaa gaagaagata aggtcgggtga ttgtgaaaga gacatagagg 300
atccgtgtca tttttgccct tgagttttcc tatataagga accaagttcg gcatttgtga 360
aaacaagaaa aaatttggtg taagctattt tctttgaagt actgaggata caagttcaga 420
gaaatttgta agtttgaatt c 441
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<210> 17
 <211> 476
 <212> DNA
 <213> Cassava vein mosaic virus

<400> 17
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 ctatgttcaa aaatgaagaa tgtacagata caagatccta tactgccaga atacgaagaa 180
 gaatacgtag aaattgaaaa agaagaacca ggcgaagaaa agaattcttga agacgtaagc 240
 actgacgaca acaatgaaaa gaagaagata aggtcgggtga ttgtgaaaga gacatagagg 300
 acacatgtaa ggtggaaaat gtaagggcgg aaaggatccg tgtcattttt gcccttgagt 360
 tttcctatat aaggaaccaa gttcggcatt tgtgaaaaca agaaaaaatt tgggtgaagc 420
 tattttcttt gaagtactga ggatacaagt tcagagaaat ttgtaagttt gaattc 476

<210> 18
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 18
 accggtacca gaaggtaatt atccaagatg t 31

<210> 19
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 19
 cggaattcaa acttacaaat ttctctgaag 30

<210> 20
 <211> 34
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthesized

<400> 20
 cgcgatccag actgaatgcc cacaggccgt cgag 34

<210> 21
 <211> 17
 <212> DNA
 <213> Cassava vein mosaic virus

<400> 21
 agacgtaagc actgacg 17

<210> 22
 <211> 22
 <212> DNA
 <213> Cassava vein mosaic virus

<400> 22
 cttatcacia aggaatctta tc 22

<210> 23
 <211> 22
 <212> DNA
 <213> Cassava vein mosaic virus

 <400> 23
 cttatcacaa aggaatctta tc 22

 <210> 24
 <211> 28
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthesized

 <400> 24
 gctctagacc agaaggaat tatccaag 28

 <210> 25
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthesized

 <400> 25
 tatggatcct atgttcaaaa atgaag 26

 <210> 26
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthesized

 <400> 26
 aaaggatcct gaagacgtaa gcactg 26

 <210> 27
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthesized

 <400> 27
 agaggatccg gtcggtgatt gtgaa 25

 <210> 28
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthesized

 <400> 28
 aaaggatcct tatcacaaag gaatc 25

<210> 29
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 29
tatggatccg tgtcattttt gcccttg

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<210> 30
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 30
cggaattcaa acttacaaat ttctctaag

29

<210> 31
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 31
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<210> 32
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 32
catggatcct ctatgtctct ttcac

25

<210> 33
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 33
acaggatccg accttatctt ct

22

<210> 34
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 34	
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<210> 35	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
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<210> 36	
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<212> DNA	
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<220>	
<223> Synthesized	
<400> 36	
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<210> 37	
<211> 13	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Synthesized	
<400> 37	
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